

PATENT
674579-2001AMENDMENTIn the Claims

1-39. (Cancelled)

40. (Currently amended) A method for increasing anhydrofructose levels in a plant or part thereof, the method comprising introducing a nucleic acid encoding α -1,4-glucan lyase in the plant or part thereof, wherein the α -1,4-glucan lyase is expressed and acts on a glucan substrate present in the plant or part thereof to yield increased levels of anhydrofructose in the plant or part thereof, wherein the α -1,4-glucan lyase comprises an amino acid sequence having at least 75% sequence identity to SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5 or SEQ ID NO:6.

41. (Allowed) The method of claim 40, further comprising preparing from said plant or part thereof a foodstuff.

42. (Allowed) The method of claim 40, wherein the α -1,4-glucan lyase comprises SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5 or SEQ ID NO:6.

43. (Allowed) The method of claim 40, wherein the nucleic acid encoding α -1,4-glucan lyase comprises SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11 or SEQ ID NO:12.

44. (Allowed) The method of claim 40, wherein the nucleic acid comprises SEQ ID NO:7.

45. (Allowed) The method of claim 40, wherein the α -1,4-glucan lyase has at least 75% identity to the sequence shown as SEQ ID NO: 1.

46. (Allowed) The method of claim 40, wherein the α -1,4-glucan lyase has at least 85% identity to the sequence shown as SEQ ID NO: 1.

47. (Allowed) The method of claim 40, wherein the α -1,4-glucan lyase has at least 90% identity to the sequence shown as SEQ ID NO: 1.

48. (Allowed) The method of claim 40, wherein the plant or part thereof is a fruit or a vegetable.

49. (Allowed) The method of claim 40, wherein the plant is grape.

50. (Allowed) The method of claim 40, wherein the plant is potato.

51. (Allowed) The method of claim 41, wherein the foodstuff is a beverage.

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52. (Allowed) The method of claim 51, wherein the beverage is an alcoholic beverage.
53. (Allowed) The method of claim 51, wherein the beverage is wine.
54. (Currently amended) A method of preparing a foodstuff comprising anhydrofructose, said method comprising the steps of:
- introducing a nucleic acid encoding α -1,4-glucan lyase in a plant or part thereof, wherein the α -1,4-glucan lyase is expressed and anhydrofructose acts on a glucan substrate present in the plant or part thereof to yield anhydrofructose in the plant or part thereof, and [;] wherein the α -1,4-glucan lyase comprises an amino acid sequence having at least 75% sequence identity to SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5 or SEQ ID NO:6; and
 - preparing a foodstuff comprising the plant or part thereof, whereby the foodstuff comprises the anhydrofructose yielded in step a).
55. (Allowed) The method of claim 54, wherein the α -1,4-glucan lyase comprises SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5 or SEQ ID NO:6.
56. (Allowed) The method of claim 54, wherein the nucleic acid encoding α -1,4-glucan lyase comprises SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11 or SEQ ID NO:12.
57. (Allowed) The method of claim 54, wherein the nucleic acid comprises SEQ ID NO:7.
58. (Allowed) The method of claim 54, wherein the α -1,4-glucan lyase has at least 75% identity to the sequence shown as SEQ ID NO: 1.
59. (Allowed) The method of claim 54, wherein the α -1,4-glucan lyase has at least 85% identity to the sequence shown as SEQ ID NO: 1.
60. (Allowed) The method of claim 54, wherein the α -1,4-glucan lyase has at least 90% identity to the sequence shown as SEQ ID NO: 1.
61. (Allowed) The method of claim 54, wherein the plant or part thereof is a fruit or a vegetable.
62. (Allowed) The method of claim 54, wherein the plant is grape.
63. (Allowed) The method of claim 54, wherein the plant is potato.
64. (Allowed) The method of claim 54, wherein the foodstuff is a beverage.

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65. (Allowed) The method of claim 64, wherein the beverage is an alcoholic beverage.
66. (Allowed) The method of claim 64, wherein the beverage is wine.